An Illustrated Dictionary of
The Gods and Symbols of
Ancient Mexico and the Maya
MARY MILLER AND KARL TAUBE

MARY MILLER – KARL TAUBE – AN ILLUSTRATED DICTIONARY OF THE GODS AND SYMBOLS OF ANCIENT MEXICO AND THE MAYA – 1997-2017

This new printing of an old book does not negate the essential character of this book, but it reduces it tremendously because from 1997 to 2017 archeology, history, and general Maya and Aztec studies have discovered so many new things that the book sounds obsolete on quite a few questions. It should have been upgraded and updated. One of the most important shortcoming, and it was already a shortcoming in 1997, is the linguistic approach of these people. Systematically mixing up Aztecs, Toltecs, Mayas, Olmecs and other people from both Central Mexico and southern Mesoamerica is leading to obvious confusion. The linguistic confusion is that we are not told what relationships existed and still exist among the various languages concerned, some of them disappeared and some others are still active, but the history of these languages is never specified. Is Maya derived from Olmec? Probably, but not explicitly said, nor proved or disproved. Does any relationships exist between Maya and Aztec, or the language associated with the Aztecs, viz. Nahuatl? The question is not asked and not answered. All linguistic information is exclusively (except in some illustrations) given in transliterated Latin writing, never in the real local writing of these people. Very frustrating indeed for Maya which was advanced in its writing system, but also in Nahuatl and other languages which had some writing systems. We cannot from what we are given even imagine if those languages are root languages, isolating languages, agglutinative languages, or synthetic-analytical languages. When we are dealing with a civilization at that level of linguistic and technological development, it is necessary to give the linguistic elements in local writing, in the transliterated Latin alphabet (as close as possible to the real pronunciation), the indispensable linguistic parameters to understand what we are dealing with (and that implies the T-numbers of these elements), the “word-for-word” or “formative-element for formative-element translation, and finally a semantic equivalent in English for example. This is never done and no real reference to any standard book or study on the subject is quoted when necessary, not only as a reference but as a real explicit quotation on the facts concerned. At best a couple of allusions to Michael Coe or Dennis Tedlock or Eric Thompson, but just as a reference and if you want to know what these quoted authors actually said, you have to go to their books or articles. The subject should have deserved 100 pages more for specific quotations and for further recent developments to update the matter.

This being said, the book remains an important resource even if it is not an easy resource, I mean easy to use since quite often you have to jump from one entry to another and the links are not always specified. The introduction is more synthetic, but it is really schematic on what is being described or said. For example, this quotation page 14:

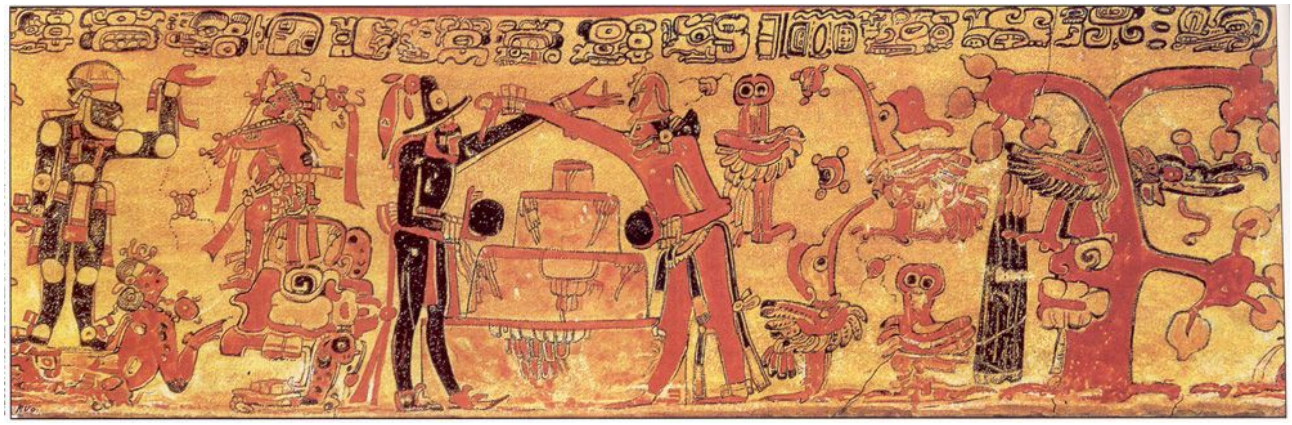
> “Throughout the world, the wheel often played a role in religious imagery, but in Mesoamerica (as in the West of the New World), no wheel was ever developed for mundane purposes – although graves in Vera Cruz have yielded wheeled toy-like objects – perhaps because of the absence of draft animals.”

This is at least superficial. It is not true in very old times that the wheel was essential all over the world. It is well-known that carrying bulging loads on one’s head is an African – among other traditions – method for the transportation of bulk goods. Children are transported by mothers or fathers wrapped up in some big piece of cloth on the backs of the parents, or their hips, or their chests. In some other areas in the world, bulky goods are transported in two baskets tied up to a shoulder yoke carried by a human being, man or woman. If the toy-like wheeled Artifacts are actually confirmed and studied, the question is why such a concept could exist in such conditions and be ignored in normal existential conditions, and backpacks on frames carried on one’s back are the common way to transport goods and is a typical equipment of all merchants (actually

represented in the book). No draught animals in Mesoamerica since horses are not present at all before the arrival of the Spaniards and the importation of such animals. In South America they had lamas, but they did not have smooth roads since they were living at high altitudes and lamas are very able and competent to climb unsmooth surfaces and even stairs and such roads with thousands of steps were a tremendous handicap to Spanish horses who cannot climb stairs. And it was easier for The Mayas or other peoples in Mesoamerica or Amazonia to use rivers with ships or boats or canoes of any sort to travel a long distance. They were also using the ocean as a waterway for their ships or boats. There is only one small entry on “canoe” despite the very important peddlers among the religious beings of the Mayas. What is missing is a balanced approach of “transportation” instead of the above quotation which is definitely uninformative and culturally biased. An entry on the transportation of goods and people is more than necessary to correct this bias.

The vision of the Olmec developing, where, how and when, some “schematic representations… to portray specific gods and god complexes” within “a permanent record of religion and ritual” and then being emulated by others, the Mayas first of all, is at least avoiding three fundamental questions. First of all, where did these conceptual and representational elements or artifacts come from? How were they developed? Second, where did the Olmecs come from and what were their language and their culture before being what we name today the Olmecs? Third and last, if emulation there was, how did it work: demographic invasion, demographic evolution, borrowing from the Olmecs by the Mayas (how and along what routes), exchanges but for what on the side of the emulators? That is the problem of all archaeologists who do not see the conceptual development that language implied as soon as articulated language developed among Homo Sapiens 300,000 years ago. By the way, how did Homo Sapiens arrive in Amazonia and Mesoamerica? Here and there the authors speak of south and north but never specify the divide between South America-Mesoamerica expanding up to the South West of the USA on one hand, and on the other hand, the rest of North America. The divide is enormous. Advanced and developed agriculture south of this divide. A lot more hunting and gathering than agriculture north of the divide. Maize in the south will have to migrate to the North to be cultivated in Virginia when the English arrived in 1607. Tobacco will also have to migrate to the North for it to be present in Virginia when the English arrived in 1607. South of the divide, we have a stone architectural civilization with the expansion in the south-west of the USA in the form of pressed earth or bricks used to expand troglodyte caves into some pueblo building. Seasonal migrations north of the divide to follow the herds they were hunting. Little seasonal migrations south of the divide but permanent lasting cities and agricultural, fishing, and hunting around these cities. A rather systematic written culture south of the divide and no writing at all north of the divide. We could also oppose the tremendous emphasis on blood and human sacrifice south of the divide and a definitely more restrained practice along that line north of the divide. Unluckily for too long, the emphasis in this field of research has been on the idea of a global migration from Alaska to Chile, and the desire to emphasize the unity of all Native Americans, probably to better reject them en masse. This was imposed by American research despite the tremendous work of some American anthropologists and linguists who insisted on differences. Luckily over the last twenty years, research, archaeology, and other scientific approaches like linguistics and cultural studies,

anthropology, and others have brought up the great difference between the two sides of a divide that still has to be specified, and along this line of inquiry biology and DNA studies have to do a lot to show the differences in native populations at this level is even more important than what some isolated studies have already shown. My hypothesis is that north of the divide including the great north and Greenland, Native Americans arrived from Siberia via Alaska, whereas south of the divide Native Americans arrived from the South Pacific landing in Chile and going up north up to the divide where they met with the other Native Americans. It would be the continuation of the migration from South East Asia and Melanesia arriving in Chile at least around 30,000 years ago, as can be confirmed in Monte Verde if we follow Steven Mithen (*The Singing Neanderthals*). DNA could be interesting because Siberia and South East Asia and Melanesia have different levels of Denisovan DNA integration, and they could be compared. Of course, Denisovans are a recent discovery.



This phylogenic dimension of the subject (the inner dynamics that bring the development of the culture of a community that has to be defined in extension and diversity, would obviously condemn such phrases like: “an explosion of new iconography and beliefs characterizes early Teotihuacan, developing essentially *ex nihilo*.” (page 18) Nothing, even the most conceptual and abstract cultural domain develops ***ex nihilo***. This concept is in many ways absurd. Nothing develops from nothing. The most innovative elements in any cultural field are the results of complex phylogenic development or evolution. Even in the Darwinian field of the evolution of species, haphazard mutations are also the phylogenic results of anterior circumstances, biological, existential, environmental, etc. It is not because we do not know how it happens that the following assertion could be stated:

[absolutely no phylogenic element] [develops] [into any phylogenic element whatsoever].

[Ø] [develops] [into anything]

This assertion seems to be an implicit (explicit page 18) bias of the authors, and it has to be regretted, but it is a very common defect in many studies in cultural archaeology and even in archaeology in general. An author studies one particular site and its inhabitants but never wonders where these people came from and how they developed the particular artifacts they left behind (except when dealing with stone technology: split stone and ground stone techniques and the evolution from one to the other including techniques before Homo Sapiens), and before writing was developed, authors rarely wonder what language these people who lived here or there in the world some fifty, sixty and even two hundred thousand years ago. This book deals with literate peoples who had writing systems of some sort, the Mayas being the most advanced in this direction but not the only ones. But the fact that all demographic references are given without clearly positioning the various ethnic or cultural groups chronologically and geographically, apart from the connection between Olmecs and Mayas, in that order of descent (but is it ethnic descent or cultural descent?), all others are not clear and the way things are presented we could even wonder if the Aztecs are not descending from the Mayas, and the book seems to state a direct relation between the two groups at least culturally but also ethnically due to the ambiguity of the mixing up of the two in many entries. There are a few mentions of the Olmec writing system as being anterior to the Maya

writing system but the two are not systematically presented and compared. Some concepts are presented in their historical development, but it is not really analyzed in the phylogenetic procedure along which we could descend from the Maya concepts to the Aztec concepts, knowing that the Aztecs came from the North and the Mayas came from the South. Where from in both cases? One example could have been updated into the book. It was recently discovered that cacao existed in Bolivian Amazonia something like 2-3,000 years before it existed among the Mayas. It has been proved the cacao tree cultivated in Bolivian Amazonia is not the same as the one cultivated by the Mayas. Since cultural facts and competences cannot go back in time, the domestication of cacao, the tree, the beans, and then the drink derived from the beans must have traveled from Bolivian Amazonia to Maya land. And that is not enough. We have to find out how it traveled this way, that distance, and who, what cultural or ethnic group carried it from South America to Mesoamerica. This phylogenetic dimension is mostly absent from the book, which was maybe not catastrophic in 1997, but it is definitely bad in 2017. It is important to find out if the transfer of cultural elements is the result of conquest and then domination (what type: colonization, full integration, of cooperation and exchange), or of some commercial contacts and exchanges, or some cultural prestige due to their religious or artistic elaboration and sophistication.

The example of the picture of the Aztec Temple Mayor of Tenochtitlan page 31, is only clear (though it does not say it) on the fact the faces of the pyramids are aligned in the cardinal directions, not the corners as is often understood. But why is it presented from the west, that is the cardinal orientation where the sun goes down into the underworld for the night.? Is it justified by any Aztec document, or by the structure of the said pyramidal temple? But the standard Maya metaphor about the center of the cardinal-oriented world is that the tree of life, a ceiba tree, is growing there pushing its roots down into the underworld and pushing its branches and blooms and fruits into the celestial overworld. The picture states that there are 9 levels in the underworld and thirteen in the overworld, but I did not find anywhere any explanation of these levels, and what's more of the value of 9 and 13. What makes 9 the number of the underworld? Page 177 the sign of the five final days of the solar year, "Wayeb," is mentioned and the Maya glyph given with its composition visually visible but not explained. "WAY"-"AB", T769a:548. And no real explanation is given about "WAY" meaning a hole, an entrance or portal, water, spirit or co-essence, room or quarter, the intransitive verb to sleep, and particularly here "a hole or supernatural portal and the jaws of the Snaggle Tooth Dragon" in short a portal to something dramatic and it is associated with falling into a supernatural world, and that can only be negative, referring to Xibalba, the underworld, and since "AB" is the "HA'AB" 360-day year, "WAYEB'" can only introduce the five dramatic and maybe even more than dramatic final days of the solar year. And if that had been explained, then 9 would have been natural because on the glyph given on page 177 the jaws of this dramatic maw carry three groups of three dots (or drops), which makes 9, but it could also explain how 3 is systematically associated with bloodletting, self-sacrifice, (human) sacrifice, and 9 is three times three, so self-sacrifice power two, hence human sacrifice and death, hence the tremendous opportunity to confront the Lords of Death in the underworld (The Maya believed that the underworld was ruled by a group of gods (**possibly 9 or 14**), known collectively as the lords of the underworld. These have fearsome names and include 1 Death and 7 Death, the two most important) and maybe win. And during these five days, all sorts of bloodletting and blood-sacrifices will have to be performed to pacify the Lords of Death and the gods in general who need human

blood to be able to survive and keep up humanity in life. This double dimension of blood sacrifice is seen as a way to make penance and purify oneself and one's community, and at the same time to nourish, literally feed, the hungry and thirsty gods who need human blood to survive. If we can thus find some elements about 9 in the book, I must say I did not find any feasible explanation about 13 being a fundamental structuring number in Maya culture, and by extension in Aztec culture. Is this culture, are these calendars – since we are dealing with calendars – a cultural concoction older than all these Mesoamerican groups, or are they the invention of the Olmec-Mayas and it then spread north. If it is older did it come from the south or the north, was it a cultural fact in Amazonia for the south and among the Bolivian and Andean Indian populations? And anyway, how was it concocted, devised, from observation for sure, but what observation? Calendars existed in all post-Ice-Age civilizations all over the world, but most of them are not comparable to this rich tradition, and the Sumerian had thirteen astrological signs, and the thirteenth sign was still on the outer wall of the Abbey church of the Benedictine abbey of Issoire, France up to the thirteenth century when it was taken down, but not destroyed, due to some restructuration of the Abbey, and it was recently restored where it used to be within a restoration campaign of the said abbey church and buildings. When we know this thirteenth sign is a serpent, the serpent that has become the symbol of medicine with the caduceus, that could lead to an opening door because snakes, serpents, and other beings, real or supernatural, fully or partly connected to snakes are essential in Maya mythology and religion, and the mythology and religions of Mesoamerica in general. Are snakes universal in human mythology and religions? We could think here of Moses's "saraphim," or "brass snakes" in the Old Testament, the brass snakes being a representation of the saraphim protecting the Israelites from the real saraphim that are a punishment of God for the disobedience of the Israelites.

One point on which the book is graphically explicit is beyond scattered entries for blood, bloodletting, and blood sacrifice, other entries insist on the human tortures connected to blood. Yet

a global and complete unique entry would have been a good thing because all the information is not easily reachable. Just a few quotations on this subject of “blood” and “human sacrifice” as they come in the book.

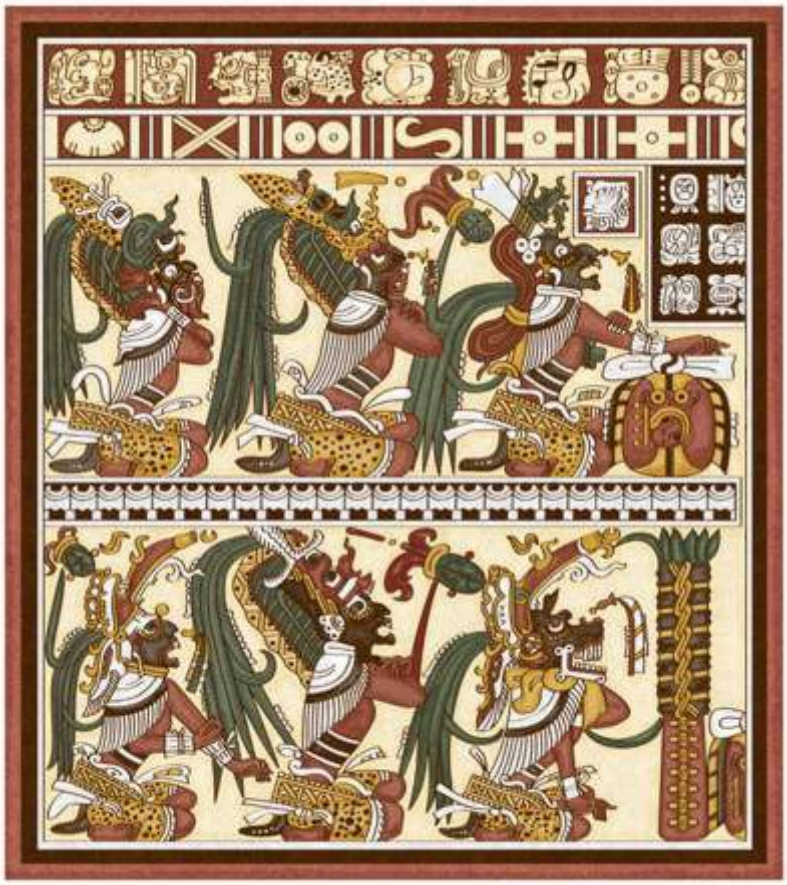
> “**human** sacrifice… After Cortes’s arrival in the New World, The Aztecs sent him tamales (ground maize cakes) soaked in [human] blood, a foodstuff appropriate for a god… Slaves were purchased for sacrifice and parents did apparently sell their children for the purpose… human sacrifice was not used as a punishment within society for crimes… Duran expressed his own incredulity at the 80,000 victims supposedly sacrificed for the rededication of the Temple of Huitzilopochtli in 1487 – but he also reported that clotted human blood formed great pools within the temple precinct, and that a new skull rack (see tzompantli) had to be built to accommodate the thousands of new offerings… the slaughter of 20,000 for that same event… The Maya [Note the Mayas are brought after the Aztecs in anti-chronological or anti-historical order] generally decapitated their victims, sometimes only after agonizing tortures. Some sere scalped, others burnt or disemboweled, and some beaten. Some captives were dressed and then bound as deer, perhaps as part of a scapedeer ritual; others were trussed up and bounced [down flights of stairs] as if balls in the ritual ballgame…” (page 96-97)

There are a lot more details and cases quoted there though it says: “No mass interments of Maya sacrificial victims have been recovered archaeologically… Disarticulated skeletons accompanying primary interments may represent slaughtered captives.” (page 96-97) This has to be compared to the tzompantlis recovered recently in Mexico city, actual platforms, towers, and altars only built with skulls of men, women, and children alike. If there were mass executions or sacrifices it was on the side of the Aztecs, at least that’s what archaeology suggests today. But this point is never discussed or made clear in the book except in this quotation. But we are far from being finished.

> “**sacrifice**. Mesoamerican gods required sacrifice… Tohil… demanded the sacrifice of hearts in exchange of his gift of fire… Tohil’s further demands… ‘It remains for you to give thanks since you have yet to take care of bleeding your ears and passing a cord through your elbows. You must worship. This is your way of giving thanks before your god.’… Quetzalcoatl and Tezcatlipoca took Tlaltecuhtli from the heavens, turned themselves into two serpents, and then, each taking a hand and opposite foot of the goddess, squeezed her until she split in half. Of one half they formed the sky and of the other half, the earth. All the gods then descended to console her, and they ordained that from her would spring all the fruit necessary for the life of man. And in order to do this, they made of her hair trees and flowers and grasses, of her skin many common and small flowers, of her eyes wells and fountains and little caverns, and of her shoulders mountains. And this goddess cried many times in the night desiring the hearts of men to eat… Generally, the most important forms of sacrifice were the most precious: human flesh and blood, whether drawn from one’s own body or from a sacrificial victim… Autosacrifice in particular was frequently collected on strips of bark paper and then set afire. [Note once again we are going to shift from Mesoamerica centering on the Aztecs to the Mayas. Note the Maya Kukulcan is identified as the same as Quetzalcoatl, which is at least not correct. And what follows seems to show that Kukulcan is a lot less interested in human victims than Quetzalcoatl particularly when it becomes an Aztek god.] When Quetzalcoatl came to Tula, he supposedly commanded only a perfect devotion and the offering of serpents and butterflies. In both Central Mexico and the Maya, dogs, quail, and turkeys were all regular offerings, as were foodstuffs. The offerings recovered from the sacred Cenote at Chichen Itza reveal the importance of precious metals and jade as sacrificial offerings, and the abundant vessels offered there and in other places of sacrificial deposit, such as caves, dedication caches, and mountain shrines, sure held varied offerings, including balls of incense and foodstuffs. The offering of dough images… known as tzoalli… made of ground amaranth mixed with human blood and a sticky sweetener, often honey.” (page 144-146)

The last example in this domain of human sacrifice I will give is the following about flaying.

"**Xipe Totec**. Xipe Totec, Our Lord the Flayed One, had achieved a large cult following in Central Mexico at the time of the Conquest… Xipe was known as the god 7 Rain… a human inside the flayed skin of another man, the extra flayed hands hanging like mittens… The flayed skin usually displays an incision where the heart was removed [we can assume the man was dead when he was flayed.]; the penis is absent [no specification if the man was castrated before or after heart excision.]; the skin is elaborately tied at the back… Tlacaxipehualiztli… began with the flaying of captives of war, usually following gladiatorial combat, of which Xipe was also a patron. Victorious warriors donned the skins of their captives and wore them for days, engaging in mock skirmishes throughout Tenochtitlan, begging alms and then blessing those who gave them food and offerings. The stinking skins were worn for 20 days, by which time they had nearly rotten off, and then, or 20 days hence, thrown by some accounts into a cave, or by others into a hole… Its imagery suggests agricultural renewal: as a seed germinates, it feeds off the rotting hull around it, finally letting the new shoot emerge." (page 188)



Lords of Xibalba

The calendars are quite explicitly explained at least in their simple mathematics, and here though some information is scattered over several entries. The main problem is the simple following question, why are these calendars based on 13 and 20. Twenty days build what the book calls a month (note the book used European words instead of local Indian words) and from there three calendars emerge. The Tzolk'in calendar (meaning "tz'o" or "tul", unified in "tzol", "rabbit", and "k'in" meaning "day" or "sun," in Maya, meaning "sun of the rabbit" or "day of the rabbit.") with 13 times 20 days, hence 260 days, is the ritualistic calendar for the prediction and planning of all rites and religious duties for people to respect. The Haab' calendar of 18 times 20 days, hence 360 days is used for Long Count dates, which makes this Long Count non-compatible with universal counting of historical time. The problem we have to answer here, and the book does not, is the use of a group of twenty days negating any natural "month" based on the moon cycle in many civilizations. Twenty is natural as a vigesimal counting base because generally considered as

based on fingers and toes, and it can be found everywhere. But just as 13 is strange, 18 is unexplained, as opposed to the lunar month of around 30 days and the solar year of 365 days, which produces 12 months based on the four seasons determined by the movement of the sun. A moon calendar is slightly different since it is calculated on let's say the full moons and in a solar year, there are normally 12 full months, and exceptionally 13 full moons (roughly every two and a half years a 13th full moon is seen). Then you have the blue moons, two full moons in a month, and four full moons in a season. All that is observable. That makes 12 common and 13 rare, and that makes 20 absolutely not natural for "months". These two calendars are not enough for day-to-day life. So, a solar calendar with 365 days is also used and the five extra days are the Wayeb as I have already explained, five days of very bad omen, not taken into account by the Long Count dating system.

But a wider approach to the symbolism of numbers would be necessary and the book does not propose such a clarification. All civilizations associate basic numbers with different meanings. It would have been interesting to enter the question. We can gather some elements here and there; For example, 2 is the top level of "chan" or "kan," the celestial overworld where the couple of creative gods live. "The creator couple Tonacatecuhtli and Tonacacihuatl resid[e] in the highest level also known as Omevocan, "place of duality." (page 154). 3 as I have said is connected to blood, hence to bloodletting or blood-sacrifice. 4 is connected to "k'in" in its very Maya glyph, a four-petal flower, that is to say, the sun or the day. 5 is negative due to its association with the "wayeb". 9 is seen as three times three and is associated with the maw of Xibalba, the underworld, and the maybe 9 Death Lords. In this line, the number 20 is not captured in its entirety by the book. Either it is "mi" (with a particular glyph of course) and this means "empty", hence maybe "zero", what's left in a box of twenty when the twentieth element in it is reached and triggers the promotion of this group of 20 up to the next tier. This 20 can thus be called the number, which is the trigger of the move, hence the head sign for it is a deadly head sign: a head with a cut hand over the lower jaw, a symbol of death but also of the ripping off the jaw, one way to torture a sacrificed person, and the hand carries the sign of being cut off from its arm, of being amputated, another torture of sacrificed people. These elements in the glyph clearly indicate that 20 or "k'al" is the number that triggers the extraction of the group of twenty from the first tier of the vigesimal hierarchy, and its promotion up, leaving an empty box, a voided box, a dead box in a way, a hole connected to the moon sign, the moon which is not a female in any way but a male god in many ways negative and associated to a rabbit and we go back to the "day of the rabbit" which is the name of the ritualistic 260-day calendar.

Writing is an essential element of this Mesoamerican culture and what has survived archaeologically – or historically since the Spaniards burned and destroyed a great amount of documents, books, and all sorts of artifacts considered, as heretical or diabolical, pagan anyway and thus anti-Christian – deals with transmitting to later generations some knowledge about the historical characters of these civilizations and cultures, the mythology and other religious beliefs of the same, and information about the topological or geographical outlay of the country. This book contains no systematic presentation of the problem of writing in such contexts, and when one glyph is given as nothing but an image, the basic presentation of these glyphs is not complete and most of the time we have isolated lexical elements transliterated into the Latin alphabet. This is too often

common in this field of research. For a glyph to be really captured, we need the glyph itself, the analysis of this glyph, most of the time composite, into its various formative elements, still in their glyphic forms. Then each formative element and the composite glyph need to be identified in Thompson's T-numbers which enable us then to use dictionaries that work from and with these T-numbers. The structure of the composite glyph is then shown in its layout in the standard presentation showing the vertical relations with semicolons and the horizontal relations with a simple dot. Then the transliteration can be used. It has to be phonetic and it has to be standardized so that the various dialects and languages can be recognized and dealt with. Then each formative element has to be made explicit as for its meaning, syntactic value, or purely semantic value, the relations between these formative elements have to be specified in their hierarchical values. And finally, the meaning in English or some other language can be provided. Let me take one example: "wayeb" (given as "uayeb" in this book) and presented as a composite glyph on page 177 and described as "The sign for the five-day Uayeb period, Palenque, Late Classic Maya." John Montgomery in his *Dictionary of Maya Hieroglyphs*, available in free access on the Internet on the FAMSI.org site [The Los Angeles County Museum of Art (LACMA) is honored to announce it has assumed stewardship of the Foundation for the Advancement of Mesoamerican Studies, Inc. (FAMSI)]. Here is what is necessary to understand the composite glyph.

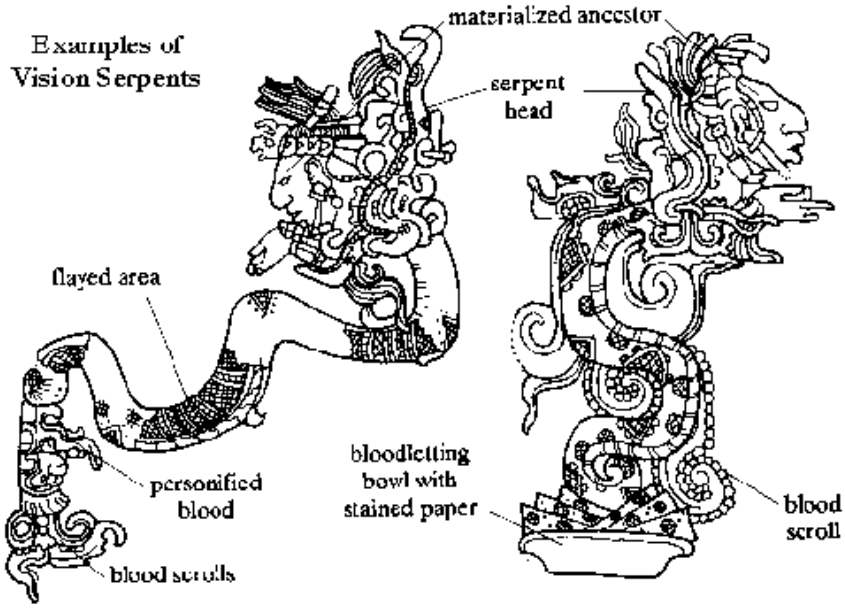
WAYEB' (*Wayeb'*) (T157:548) **>** noun month sign; last "month" of the Maya Ja'ab' calendar; the final five-day unlucky period. (Peter Matthews) **WAYEB'** (*Wayeb'*) (T157:548) **>** noun month sign; the final five-day unlucky period of the Maya Haab' calendar.

We have to add the same presentation for each formative element and Montgomery does not give enough explanation. The word can be decomposed as WAY-EB. Montgomery does not provide T157, but WAY corresponds in his dictionary to two glyphs with the same meaning, though not the same symbolism, and only the second is visually close to the one we are looking for.

WAY (*way*) (T769a) 1 **>** noun "hole" 2**>** noun "entrance, portal" 3**>** noun "water" 4**>** noun "spirit, co-essence, *nawal*" 5**>** noun "room, quarter" 6**>** intransitive verb "to sleep". **<>** (John Montgomery) Represents a "hole" or supernatural portal and the jaws of the "Snaggle Tooth Dragon."

This "Snaggle Tooth Dragon" can be found attached to another glyph phonetically connected to WAY, i.e., WA.

wa/WA (*wa*) (T335) 1**>** phonetic sign 2**>** positional suffix *-w* 3**>** positional verb "to erect" 4**>** noun "tortilla" 5**>** particle "and then" 6**>** progressive aspect marker on transitive verbs (?) **<>** (John Montgomery) Represents the teeth and eye of the "Snaggle Tooth Dragon."



This “Snaggle Tooth Dragon” can lead us very far. It has to do with the Water Lilly Monster or Water Lily Serpent that has to do with the end of the 360-day ha’ab’ – or ja’ab’ in Montgomery’s dictionary – year, hence with the shift to the 5-day wayeb period. And we have to keep in mind that the concepts of serpent, snake, and what’s more dragon (a flying snake in a way) cover positive and negative references or symbolism. This present book can provide some elements, but they are scattered and never brought together; Here is an illustration of this complexity.

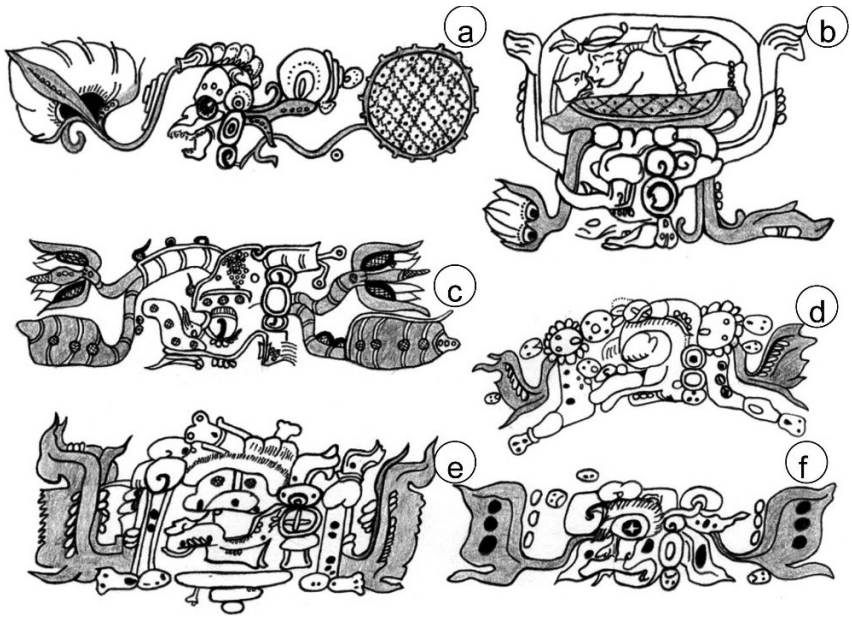


Figure 5. Variant renderings of Water Lily Monster (flowers shaded).
a) Pug-nosed Water Lily Monster with deltoid flower, punctate sepals, and trefoil ear flare. After Kerr 5961.
b) Long-snouted Water Lily Monster with water lily ear flare. Note the bud is marked by the *nen* (‘mirror’) sign. A deity blows a conch while prostrating himself across a water lily leaf. After Kerr 7146.
c) A jawless Water Lily Monster produces two flowers, one of which extends from an ear flare and two bear nippled fruits on recurved peduncles. After Kerr 8621.
d) The Water Lily Monster is often covered with many solar *ajaw* signs that are surrounded by stylized petals. A *k’an* cross is observed upon his head. Tikal Museum, Guatemala.
e) This Water Lily Monster produces two stylized, asymmetrical flowers. After Kerr 6426.

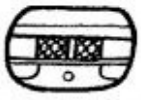
f) Asymmetrical flowers flank this short-haired, snaggle-toothed Water Lily Monster. A *k'an* cross decorates his forehead and three prominent orbs occur within and to the side of the flower. After Kerr 6616.
(J. Andrew McDonald and Brian Stross, "Water Lily And Cosmic Serpent: Equivalent Conduits Of The Maya Spirit Realm", in *Journal of Ethnobiology* 32(1): 74–107 Spring/Summer 2012, page 85, https://www.utrgv.edu/biology/_files/documents/publications/amcd5.pdf)

To go back to WAY and WAYEB, in the T769a identified by John Montgomery that we considered similar to the one used in the book under review page 177, the groups of three dots or drops or beads are present, twice in T769a and three times in T157. If an extensive symbolical approach of numbers were available, we could see how many groups of three similar objects, dots, or other elements are present in the Water Lily Monster representations, with a basic ternary structure, the water lily on both sides, and some scene between the two.

And as we said, this WAY is the ending point of the 360-day ha'ab' year and the trigger into the 5-day final period of the 365-day solar year, and we must keep in mind this 365-day solar year is never used in ritualistic planning nor in Long Count historical time (we will later see one consequence of these five days in one calendrical instance). Imagine then what happens during these five days that necessarily fall within one 260-day Tzolk'in calendar. Practically never at the same place and with two meanings superimposed, one from the negative WAYEB and the other either positive or negative from the Tzolk'in calendar.

And the second glyph in the composite glyph WAYEB is EB'. But before speaking of EB', let's identify the particular glyph. John Montgomery tells us it is T548.

The T548 closest to the one on page 177 of this book is the following.



AB' (*ab'*) (T548) 1> noun "year"; the year of 360 days; the **TUN** sign in Initial Series and Distance Number notations 2> noun part of the name of the ruler of Seibal, Aj B'olon Ab'taj (cf. Seibal Stelae 7, 9, 10, and 11) <> (John Montgomery) Represents the cross-section of a wooden drum, or *tunkul*. See also **JA'AB'** and **TUN**. (Peter Matthews) **HAB'** (*hab'*) (T548) 1> noun "year"; the year of 360 days; the **TUN** sign in Initial Series and Distance Number notations 2> noun part of the name of the ruler of Seibal, AJ B'olon HAB'taj (cf. Seibal Stelae 7, 9, 10, and 11) <> Represents the cross-section of a wooden drum, or *tunkul*. See also **HAAB'** and **TUN**.

No problem then with the composite glyph. The portal, the hole, or the maw of a dragon, of a serpent of some sort that will last five days after the 360-day HAAB'. There is only a small problem to be solved with the possible pronunciation that identifies the second part of the word as EB' and this homophony or quasi-homophony adds an interesting element.

EB' (*Eb'*) (Tnn) > noun day sign; twelfth day of the Maya Tzolk'in calendar <> (John Montgomery) Represents a skull with T528 **KAWAK** infix within a cartouche.

KAWAK (*Kawak*) (T528) > noun day sign; nineteenth day of the Maya Tzolk'in calendar <> (John Montgomery) May represent rainclouds (the so-called bunched grapes) and the rainbow within a cartouche.

If we trust John Montgomery here, the homophonic element brings in a meaning (not the glyph per se) associating the 12th and the 19th days of the Tzolk'in calendar. We just know that in

many instances having to do with numbers, and days are numbered, the number before the last of a series is seen as the trigger of the end of this series. Typically, if you had one more unit to a group of 19, you do not write twenty, K'AL, but what's left after this group of twenty is promoted up to the tier just above as one more group of twenty there. Thus, 19 can be seen as the trigger of this shift and what's left is MIN. In the same way, 12 can be seen as the trigger of the cycle of 13 that brings us back to the beginning 1.

Let me give you the glyphs for these "numbers," though of course, I know that zero/0 is not a number but only a digit that is used in mathematics to produce the next tier of the decimal hierarchy, but keep in mind that 10 is the tenth number of the first decimal group in mathematics. The second group or tier of the decimal hierarchy is 11 and not 10. In the same way year 1 BCE is just before year 1 CE. There is no year 0. Here in Maya numeration, zero/0/MIN is what is left when 20 has been reached and the whole group has disappeared into ONE more element on the next hierarchical level.

mi/MI (mi) (T173) 1> phonetic sign 2> > noun "nothing, zero"; negative marker.

mi/MI (mi) (T217v) 1> phonetic sign 2> noun "nothing, zero"; negative marker.

mi/MI (mi) (Tnn) > noun "nothing, zero"; negative marker <> (John Montgomery) Represents a human head with hand over lower jaw.

The ternary structure of the first glyph, the two double-cut symbols of amputation on the hands and the vertical position meaning stop, and the hand on the jaw which makes you think of one of the pre-sacrifice torture, to rip the lower jaw off the sacrificee, all those elements provide the negative value and thus the clear meaning of emptiness which is the semantic value of zero but certainly not the mathematical value of the Arab number zero which is not a number but a digit that means emptiness of course when it is alone, but that is not its mathematical value: to complete one decimal group of ten to start counting beyond in the second or next decimal group of ten.

Quite different is K'AL.

K'AL (k'al) (T683a) > noun "twenty;" cardinal number; the "moon" sign.

K'AL (k'al) (T713a) 1> transitive verb "to bind, tie, wrap" 2> transitive verb "to close" 3> transitive verb "to set" 4> noun "completion" <> (John Montgomery) Represents the back of an extended human hand.

This number, and 20 is a number, is not really necessary in the counting system of the Mayas, and I guess by extension of Mesoamerica since a group of twenty will never stand by itself as twenty anything, but it will stand alone as one bundle containing twenty items of the lower tier. This meaning is well conveyed by the completion meaning of T713a, of binding up the bundle of twenty. The Mayas have special names for these groups of twenty and their hierarchy. These groups are when dealing with days and calendrical time:

K'in	1 day
Winal	20 k'ins or 20 days
Tun	18 winals or 360 days
K'atun	20 tuns or 7,200 days
Bak'tun	20 k'atuns or 144,000 days.

There are bigger groups higher in the hierarchy, always 20 times the just lower group. There are also smaller groups like lahuntun/lajuntun = 10 tuns, hotun/jotun = 5 tuns, since lahun/lajun = 10 and ho/jo = 5. I follow the current custom to use the plural marks on these Maya words, which is nothing but Indo-European-centeredness. We could wonder about how the plural was marked in Maya. But normally you do not need to say k'al k'in since k'al k'in = jun winal (jun = 1)

VENUS

I would say the same thing about the cardinal points. I am surprised with the order given in this book, East – North – West – South, which is not the order we generally find, from East to North in clockwise order, from the birth of the sun in the East to its death in the West and its absence while it is in the underworld for the night, and it is a metaphor of the life of a man who is born, then lives, then dies, then goes down into the underworld Xibalba to confront the Death Lords in their nine layers of challenging provocation, and eventually to win and thus be able to get out in the North and climb the ceiba tree of life in the center (fifth cardinal orientation, down and up, the axis of the underworld-world-overworld) into the overworld Chan and its thirteen layers, stories. The book gives the colors associated with the FIVE directions, but the missing elements are the trees associated with the FIVE directions, the birds living in these trees, and the gods associated with the trees and birds. Only the central tree in Xibalba version, the ceiba tree or gourd tree that looks like a cacao tree, and its bird, the Vucub Caquix or 7 Macaw, are identified from the reference to the Popol Vuh since the Hero Twins fight against and kill the bird. The interesting element of the identification of the five days of each direction (reduced to FOUR directions since there are only twenty days and four times five makes twenty: how did the Maya deal with this contradiction?) is interesting but it is highly unfinished since it only gives the five days of the East (1st, 5th, 9th, 13th, 17th). The contradiction is all the more interesting when the book introduces the Year-Bearers based on the regrouping of the twenty days into five groups of four days. The Maya got to this concept by calculating the rotation of the first days of the year in Tzolk'in identification over the 365 days of a full solar year. If a year starts on 1 Ik', due to the fact 360 days is a multiple of 20 (18 winals), the first day of the next year will be pushed forward by five degrees to 2 Eb, and then next year to 3 Kaban, and then the fourth year to 4 Manik, and the fifth year will start as a 5 Ik', etc. To come back to a year starting with 1 Ik', 52 years have to go by, and that is the origin of the 52-year cycle of Maya and Mesoamerican calendrical mapping of time. These 52 years are essential for the Maya and Mesoamerican peoples. You can imagine what happens in the last wayeb of this 52-year cycle. Five days of change, complete change, which is both going back to the beginning and hence, restarting. It would take little time to make both visions negative, and positive. The masters of the Codices that specified all the rituals of the Tzolk'in calendar are the real masters of life in this civilization: their reading of the codices will have to be implemented and abided by. These masters cover the political leaders, the writing elite (in fact all the "scientists"), and the priests or other guardians of religious rectitude.

But this has to do with the creation as seen by these various Mesoamerican peoples. I will not discuss it here. There are a lot of versions and they have to be collected and compared. There is still a lot of work to do. But if we keep to the Mayas and the creation of the world and human

species as seen in the Popol Vuh, it has to do – HEAVILY, SUPER-HEAVILY – with an essential birth of one god, the Maize God, Jun Nal Ye. This is obviously a vision of the creation of the world based on the domestication of one essential plant in Mesoamerica, MAIZE. And this domestication is not understandable without a wider vision, and that means the main agricultural concept of the MILPA. From what we can know this practice was developed first in Amazonia and then spread north to Mesoamerica. But the vision of agriculture in this book is very deficient. Cacao is reduced to very little and chocolate is reduced to one link back to cacao. Tobacco is not exploited the way it should be, as a sacred plant for sacred rituals. These three plants are essential and the three of them require very special domestication procedures and processing techniques, maize being by far the most mysterious. We still do not know how the modern plant that cannot self-sow itself was developed from the various wild plants that all are self-seeding. In the same way, we do not know how these people devised the way to pre-cook the plant with ashes in water to enable the grains to be perfect for human consumption. On the other hand, pulque, the alcoholic beverage developed from the maguey plant (agave) is quite well covered. It would have also been interesting to cover the various plants used for plain nutrition like potatoes (so many types all different), squashes and pumpkins, beans of all sorts, and some others. This must have determined a tremendous nutritional revolution and it must have triggered the fast development of the people who started it. But it must have taken a tremendous amount of time to be devised, and we are thus speaking of a transformation that probably covered 10,000 years and was only achieved somewhere around 5,000 BCE in Amazonia where they developed the raised milpa providing both draining and irrigation to the plants, plus a technique to enrich the soil with ground charcoal. The Maya could only prosper because of their solving the problem of draining the land, collecting and saving the water, and irrigating their crops, and that was all the more possible because such techniques had been slowly developed in Amazonia and the Andes: such an evolution implies a high level of communication and mnemonic techniques, like writing in Mesoamerica or string knotting in the Andes. We cannot understand the fast development of these civilizations without understanding this agricultural revolution in very different conditions here and there, connecting it to the Amazonian and Andean developments that were for some of them anterior, and that probably spread north.

To finish with a positive note, the approach of the serpent or snake in these civilization is important and this book gives various approaches: Vision-serpent page 181 that opens onto religion and shamanism; War serpent page 182 that opens on the constant presence of war among these peoples for very varied reasons and objectives though the main one seems to be prisoners who became slaves and were kept for various human sacrifices causing death or just providing society with the human blood they needed for their rites; the Water-lily serpent page 184 and the ambiguous value of a symbol of the creation of the world, of birth and the gate to the underworld under the water on which it floats; the fiery Serpent page 188 and the very tyrannical value of this serpent from the deepest layer of the world; and we must not forget Quetzalcoatl page 141, the Plumed Serpent known as Kukulcan among the Mayas, though the two are not differentiated though they should be, but Quetzalcoatl is a dead sacrificed god promised to rebirth. The Maize God, the Maya Jun Nal Ye, is such a god who was sacrificed at least twice if not three times before being reborn, but he remains always on probation and he is constantly expecting blood donations from humans. I was slightly surprised not to find the centipedes and millipedes that are, some of them, poisonous, and they are abundantly represented in the surviving codices and the surviving art. And what about the stingray that was an essential sea animal providing the Mayas with its spine for bloodletting.

It is where a general discussion could appear. Isn't this civilization in a phase of development as for its religious attachment to blood that must have existed in all human civilizations and was, maybe for good, transcended by some religions like Buddhism or Christianity, transcended really by the total rejection of any sacrifice by the Buddhists and symbolically by the Christians who reenact the divine gift of blood to salvage humanity in their ritual of the Eucharist, a ritual that reenacts the Last Supper of bread, wine, and mutton plus various other foods, hence a very agricultural practice, and that commutes the blood sacrifice of the crucifixion embedded in this Last Supper into a divine act of selflessness. The bloodshedding is on

the side of God, or his Son, on one Christian hand, and on the side of the humans to keep the Gods alive on the other Maya hand. Fundamentally the same thing but in opposite directions. The meaning cannot come from the common element, blood, but the meaning of the two civilizations can only come from the difference in directions. If we want to understand we have to get rid of our sensitiveness that makes us faint in front of violence and blood, though we are cathartically and at times perversely attracted to scenes of that type with road accidents in real life or all sorts of violent action films in symbolic life.

You can then understand that my conclusion is that I am frustrated by the republishing of an old book without integrating into it all we have learned in the twenty years between the two editions. That reveals, too, the fact that such an updated and updating project is not yet available in public form, though it is quite available in scattered form over a great number of books and publications. As Chomsky would say (he did in 1965) instead of criticizing, why don't we try ourselves to produce the book we are dreaming of? Such a book can only be produced by a multi-scientific team of probably twenty specialists if not more, and two or three times as many students, graduate students, of course, doing the ancillary exploration needed for the research workers to nourish their reflection. I must say quite a few books and studies exist already in this direction, and that's why this book would have been inspired if one or two editors had accepted the challenge and updated the book, at least on crucial questions, some of the questions I have touched above.

Dr. Jacques COULARDEAU